

WHAT IS CLAIMED:

1. A semiconductor device comprising:
  - a semiconductor chip having a plurality of electrodes;
  - wiring materials having a plurality of lead terminals;
  - a metal plate connecting with said plurality of electrodes at a first portion of said metal plate and connecting with said plurality of lead terminals at a second portion of said metal plate; and
    - a molding resin sealing said semiconductor chip, parts of said wiring materials, and said metal plate, wherein a surface of said metal plate is uneven and joined to said molding resin.
2. The semiconductor device as claimed in claim 1 wherein said metal plate connects with said plurality of electrodes and said plurality of lead terminals by a plating formed on said metal plate.
3. The semiconductor device as claimed in claim 2 wherein said metal plate has at least one bent part between said first portion and said second portion, and
  - wherein said plating is formed on said first portion and said second portion.

4. The semiconductor device as claimed in claim 3 wherein said plating is formed only on said first portion and said second portion.

5. The semiconductor device as claimed in claim 4 wherein said metal plate has a groove formed at said bent part in a direction crossing a direction of said lead terminals.

6. The semiconductor device as claimed in claim 5 wherein said groove is formed in a recessed face side of said bent part of said metal plate.

7. The semiconductor device as claimed in claim 3 wherein said plurality of lead terminals are plated.

8. The semiconductor device as claimed in claim 3 wherein said plurality of lead terminals have a concave, and  
wherein said metal plate are connected with said concave by a conductive bonding material.

9. The semiconductor device as claimed in claim 8 wherein said surface of said metal plate is roughened.

10. The semiconductor device as claimed in claim 8 wherein said surface of said metal plate is dimpled.

11. The semiconductor device as claimed in claim 8 wherein said metal plate has at least one through hole.

12. The semiconductor device as claimed in claim 8 wherein said surface of said metal plate has a plurality of whisker platings.

13. The semiconductor device as claimed in claim 3 wherein said metal plate has claw parts fitted in said wiring materials.

14. The semiconductor device as claimed in claim 13 wherein said surface of said metal plate is roughened.

15. The semiconductor device as claimed in claim 13 wherein said surface of said metal plate is dimpled.

16. The semiconductor device as claimed in claim 13 wherein said metal plate has at least one through hole.

17. The semiconductor device as claimed in claim 13 wherein said surface of said metal plate has a plurality of whisker platings.

18. A semiconductor device comprising:

P00260 "High Tech"

      a semiconductor chip having a plurality of electrodes;  
      wiring materials having a plurality of lead terminals;  
      a metal plate connecting with said plurality of electrodes at a first  
5      portion of said metal plate and connecting with said plurality of lead terminals  
      at a second portion of said metal plate by a plating formed on said metal plate,  
      said metal plate having at least one bent part between said first portion and  
      said second portion and a groove formed at said bent part in a direction  
      crossing a direction of said lead terminals; and

10           a molding resin sealing said semiconductor chip, parts of said wiring  
      materials, and said metal plate, wherein  
                a surface of said metal plate is uneven and joined to said molding resin.

19.     The semiconductor device as claimed in claim 18 wherein said  
      surface of said metal plate is roughened.

20.     The semiconductor device as claimed in claim 18 wherein said  
      surface of said metal plate is dimpled.